



MANAGING THE HUNT



A primary objective of Wisconsin's turkey management program is to maintain a secure population capable of supporting a high quality, safe hunt with reasonable hunting success. In addition to turkey population dynamics, managers also need to better understand the attitudes and perceptions of hunters and of the landowners who provide much of the turkey habitat. Wildlife managers use a number of surveys to monitor the state's turkey populations along with several surveys of hunters and farmers. They have used this information to develop the harvest management framework, establishing conservative harvests to ensure the future of the turkey resource.

Monitoring Population Status

Mandatory harvest registration ensures accurate and timely determination of harvest for each zone and time period. Trends in the harvest per permit issued provide a useful measure of changes in turkey abundance. This information helps wildlife managers make sound harvest recommendations (Figure 19).

Mandatory harvest registration also permits collecting information on the sex and age composition of the harvest. If harvest rates are fairly stable, the percentage of subadult males (jakes) in the spring gobbler harvest is a good measure of changes in reproduction. This information provides a useful index to the success of the hatch (number of young produced) the previous summer. Generally, jakes average about 20-30% of the spring harvest (Figure 20). In springs following a good hatch the previous summer, as in 1986-89, 1995, and 1998 the percentage of jakes in the harvest increases to about 40%.

Harvest registration allows for collection of sex and age information.



NEAL PASLEY



DNR PHOTO

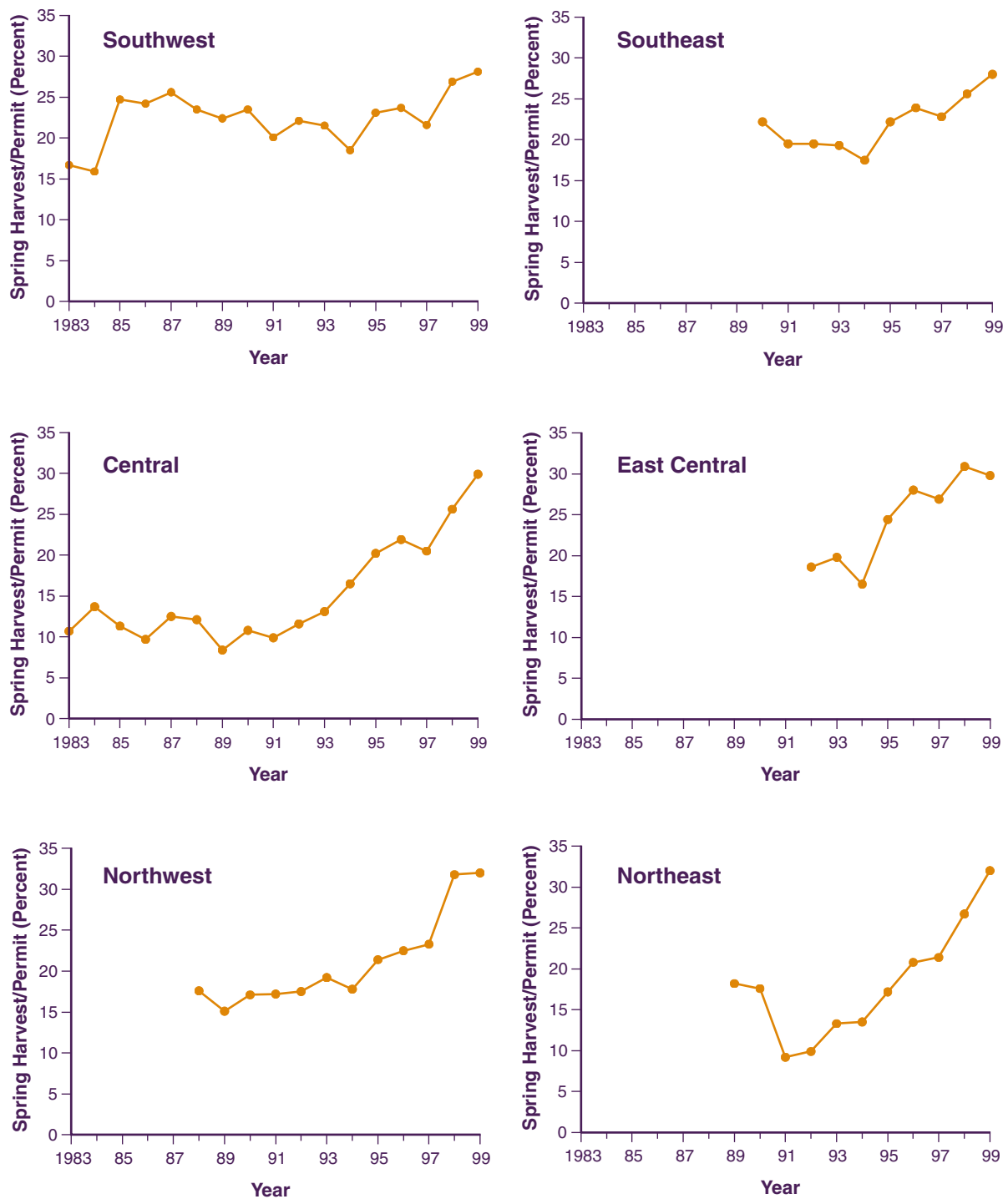


Figure 19. Harvest per permit during spring by wild turkey management regions, 1983-99. (Wild turkey management regions are depicted in Figure 4, page 6)



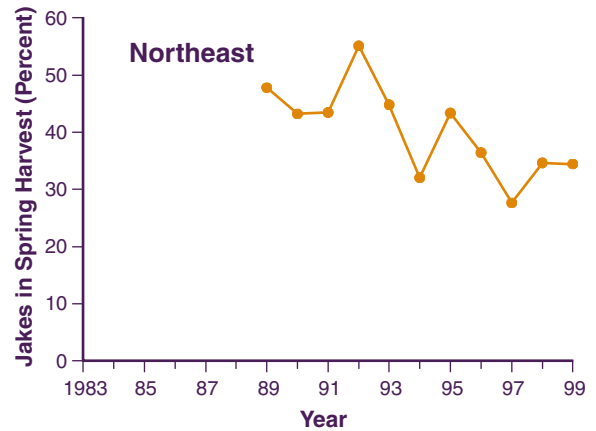
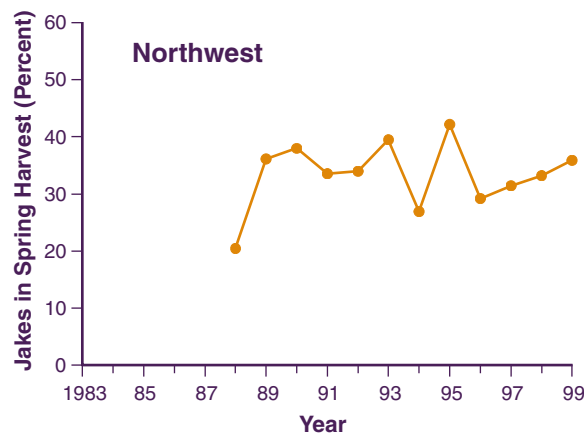
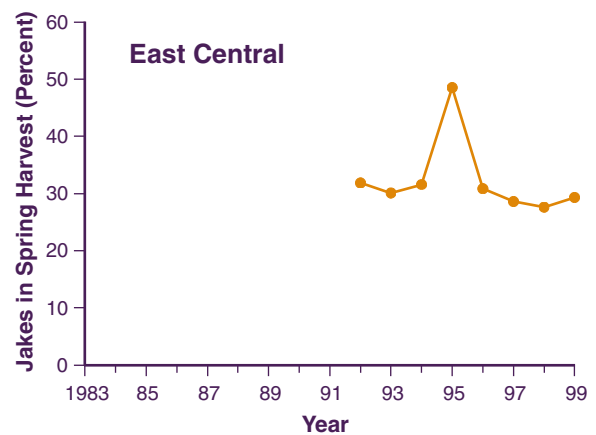
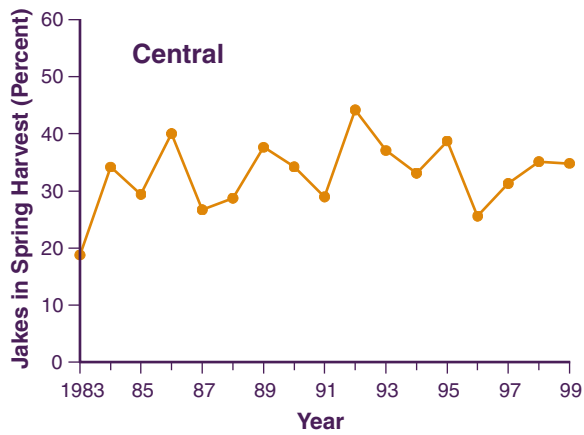
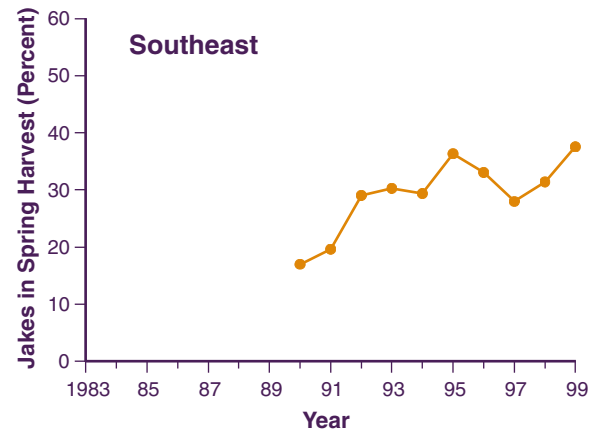
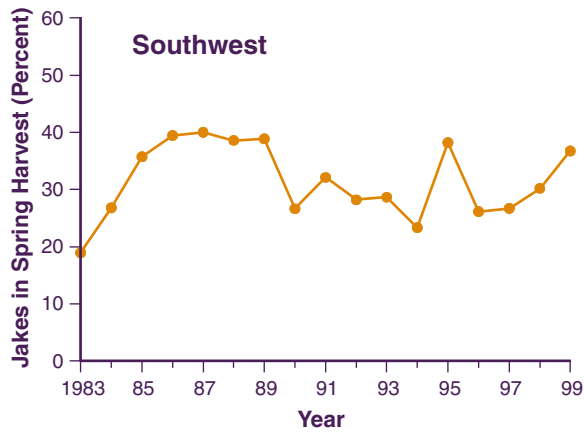


Figure 20. Changes in the percentage of jakes (subadult male wild turkeys) in spring harvest by turkey management region, 1984-99. (Wild turkey management regions are depicted in Figure 4, page 6)





The percentage of poults (young of the year) in the fall harvest can provide another measure of the success of the hatch and survival of poults to fall. Generally, poults have averaged about 47% of the fall harvest. This is somewhat below the percentage observed in neighboring states where poults comprise about 55% of the fall harvest.

Each year over 3,000 resident rural landowners throughout southern Wisconsin report their observations of turkey broods during June, July, and August. The number of poults seen per hen is calculated from these reports, providing another index of reproduction. The number of poults per hen has averaged about 3.0, and has varied from about 4.0 in 1988 to 2.3 in 1995 (Figure 21). This index has closely paralleled changes in the percent of subadults in the following spring harvest.

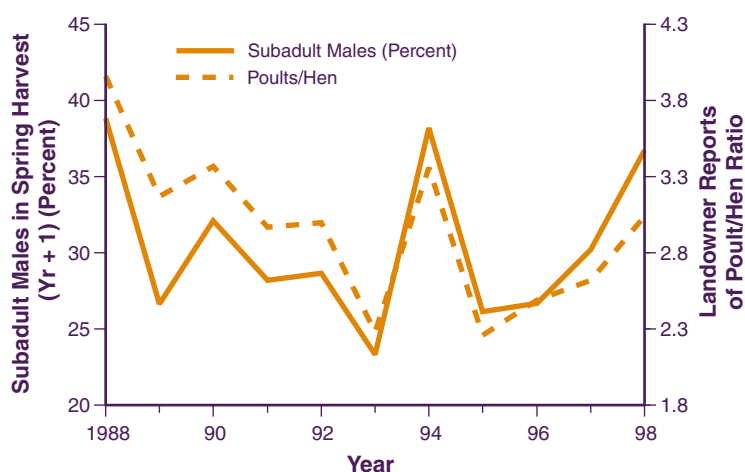


Figure 21. Trends in wild turkey poult production in southwestern Wisconsin (1988-98) from reports by cooperating landowners and the percentage of jakes (subadult male wild turkeys) in the following spring harvest.

WILD TURKEY BROOD CENSUS					
Brood #1:	Number of Hen(s) _____	Number of Poults _____	Brood #3:	Number of Hen(s) _____	Number of Poults _____
<input type="checkbox"/> 1/4	<input type="checkbox"/> 1/2	<input type="checkbox"/> Grown	<input type="checkbox"/> 1/4	<input type="checkbox"/> 1/2	<input type="checkbox"/> Grown
Date Seen: _____		Date Seen: _____			
Brood #2:	Number of Hen(s) _____	Number of Poults _____	Brood #4:	Number of Hen(s) _____	Number of Poults _____
<input type="checkbox"/> 1/4	<input type="checkbox"/> 1/2	<input type="checkbox"/> Grown	<input type="checkbox"/> 1/4	<input type="checkbox"/> 1/2	<input type="checkbox"/> Grown
Date Seen: _____		Date Seen: _____			
How many adult hens have you seen without broods? _____ during month of _____					
Name: _____			County: _____		
Address: _____					
Comments on Turkey Program: _____					
<div style="display: flex; justify-content: space-between;"> <div> State of Wisconsin Department of Natural Resources Box 7921 Madison, WI 53707 </div> <div style="border: 1px solid black; padding: 5px; text-align: center;"> U.S. POSTAGE PAID MADISON, WI PERMIT 906 FIRST CLASS MAIL </div> </div>					

Rural landowners throughout southern Wisconsin report their observations of wild turkey broods on postage paid census cards.



Hunting Seasons and Harvests

Control of hunter density is important to maintain a high quality, safe hunt. This is achieved by issuing a limited number of permits through a random drawing (1 bird per permit). A committee sets permit levels annually for each hunting zone. Committee members include DNR wildlife biologists and conservation wardens and representatives from the Wisconsin Chapter of NWTf and the Wisconsin Conservation Congress. Permit levels and harvest recommendations are based on turkey population data, results of hunter satisfaction and interference surveys, and harvest and hunter success data.

Spring Hunt — Spring hunting resumed in 1983 in four zones in southwestern and central Wisconsin (Figure 22). That year 1,200 permits were issued and 180 turkeys were shot. Only male or bearded female birds can be legally harvested in spring. By spring 1999, 41 zones plus 10 state parks and Fort McCoy were opened to hunting, with 112,256 permits issued and 33,168 birds harvested. Statewide, spring harvest success has averaged about 22% of permits issued (Figure 23).

Beginning in 1983, the spring season was three 5-day time periods. By 1990 three more time periods had been added. The spring season currently extends from mid-April to mid-May. To

minimize hunter crowding, permits are specific to one hunting zone and one time period. In the prime turkey

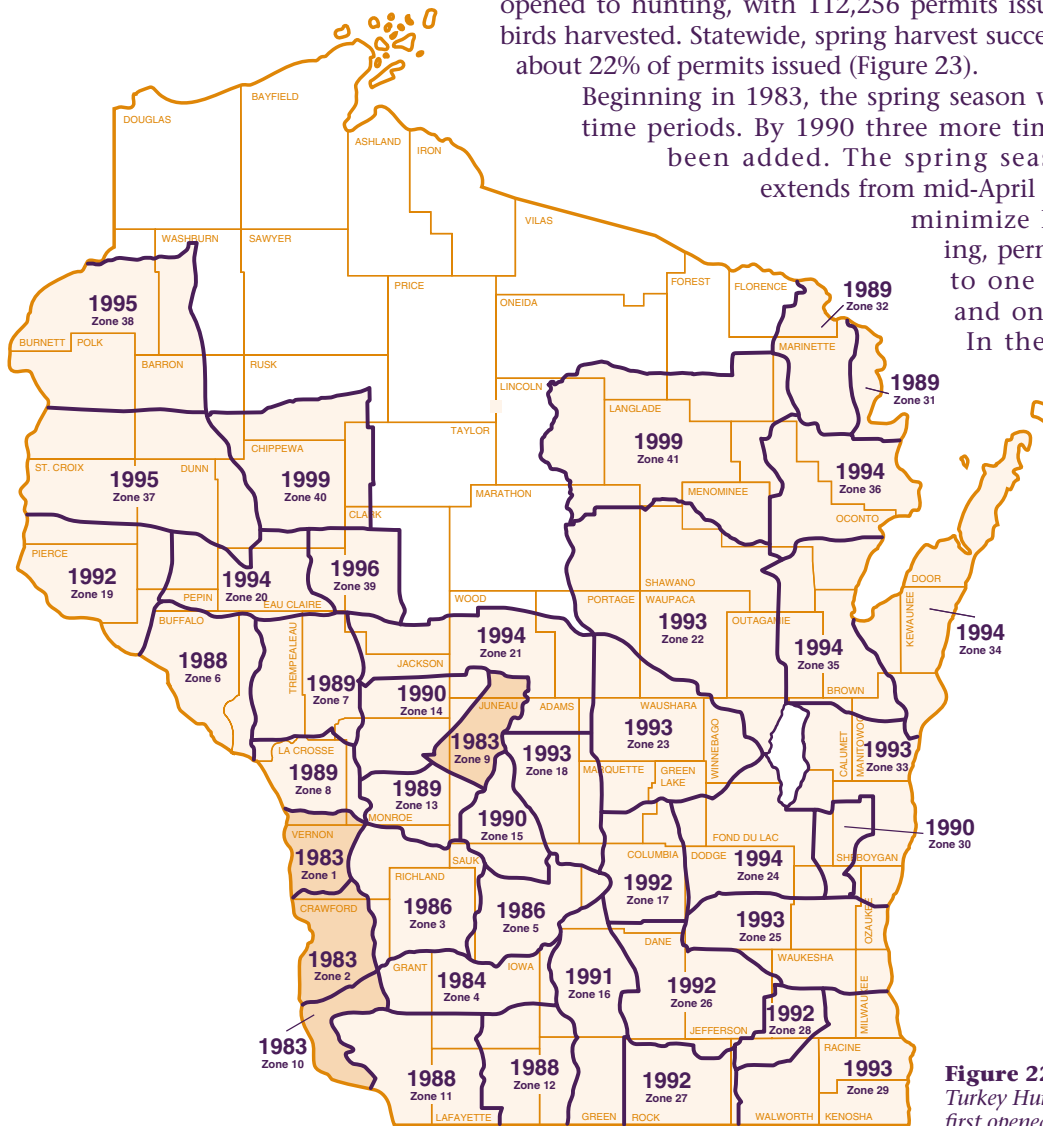


Figure 22. Years that Turkey Hunting Zones were first opened to spring hunting.

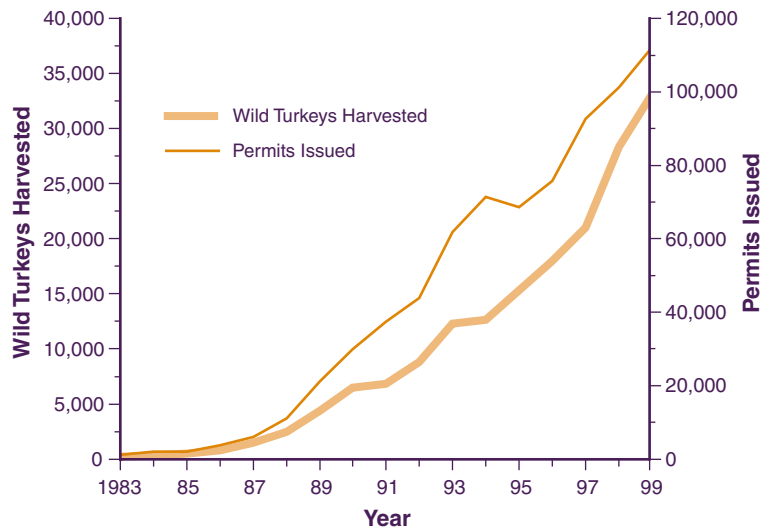


Figure 23. Number of permits issued and wild turkeys harvested in Wisconsin during spring seasons, 1983-99.

range, hunter densities generally are kept under 4 hunters per square mile of woodland per time period. Lower hunter densities are generally prescribed in zones with one of the following conditions:

- less suitable habitat
- lower turkey densities
- first time hunting season
- special concern about interference from other hunters
- limited access to private land

Harvest prescriptions attempt to remove only 20% to 30% of the gobblers during the spring season to ensure most gobblers survive to the following year. This means that enough gobblers will be available to hunt in future years even if reproduction is poor for a year or two. Adult turkeys seem to be more active and respond more aggressively to calling than subadults. Maintaining a high percentage of adult gobblers in the population also ensures that most hunters will either hear or see a bird during the spring hunt.



Spring harvest is limited to 20% to 30% of wild turkey gobblers to ensure most gobblers survive to the following year.

ROBERT WRIGHT





Fall Hunt — Fall hunting was initiated in 1989 in 8 zones (Figure 24).

In that season 7,260 permits were issued and 1,570 birds were bagged. In fall, hunters may harvest birds of any sex or age. Decisions to initiate fall hunting in a THZ were based on spring hunting success, indicators of turkey abundance and distribution, and other factors. Generally, fall seasons were initiated in a THZ several years after the zone's first spring season. Hunter perceptions of hunt quality and the degree of interference between turkey hunters and other users (small game hunters, archers, and other recreationists) were also evaluated. By fall 1999, 55,497 permits were issued in 36 zones with 10,825 birds registered (Figure 25). Harvest success during fall has varied over the years from 10% to 27% as measured by harvest per permit issued in THZ regions (Figure 26, page 36). Statewide, fall harvest success has averaged about 20% of permits issued.

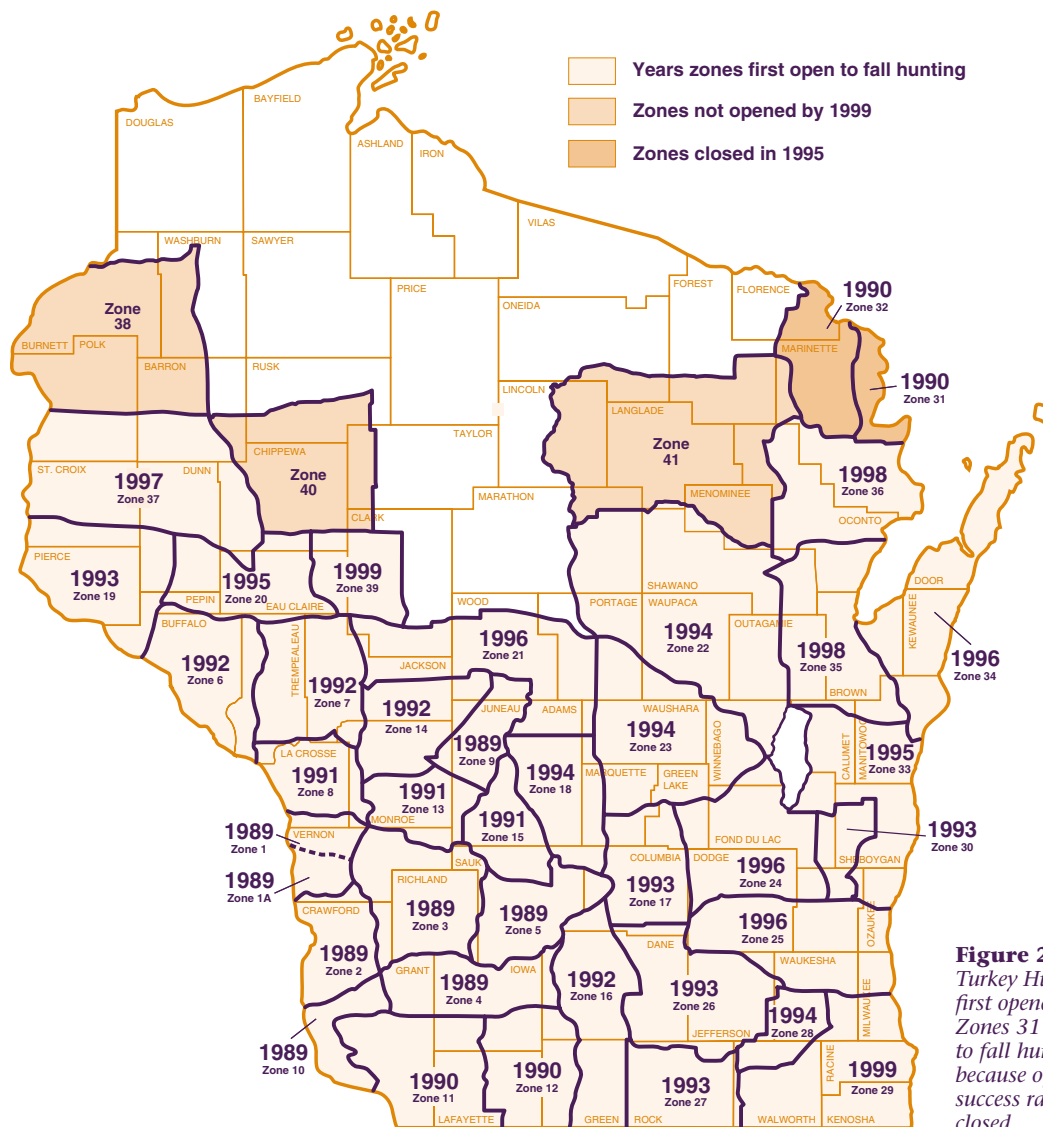


Figure 24. Years that Turkey Hunting Zones were first opened to fall hunting. Zones 31 and 32 were closed to fall hunting in 1995 because of low spring harvest success rates and remained closed.

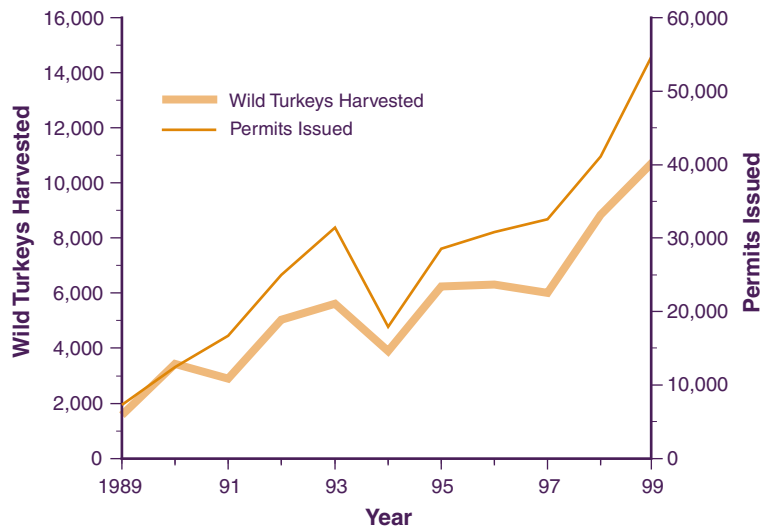


Figure 25. Number of permits issued and wild turkeys harvested in Wisconsin during fall seasons, 1989-99.

When fall hunting began in 1989, hunters were limited to hunting during one of three 5-day time periods. Time periods were extended to 7 days in 1990. Since 1994 hunters have been allowed to hunt for a 28-day period that begins on the Monday nearest October 10. As in spring, hunters are assigned to a specific hunting zone.

Originally, fall permit levels were set in southwestern Wisconsin to yield about half as many turkeys as the spring harvest, and in northern and eastern zones to yield a quarter to a third of the spring harvest. While these prescriptions likely removed fewer than 10% of the adult hens in zones with established populations, even more conservative limits may be appropriate when poult production is low. This is especially important in zones where turkeys have not fully occupied the suitable habitat.

More permits have generally been prescribed in southwestern Wisconsin where turkey populations are well established and dense enough for fall hunting. Lower turkey populations warrant more conservative fall harvests in much of the rest of the state. In addition, woodlots in much of east central Wisconsin are small and fragmented. This increases the possibility of overharvest and the chance that turkey hunters will interfere with other hunters, dictating more conservative permit numbers.



MICHAEL JOHNSON

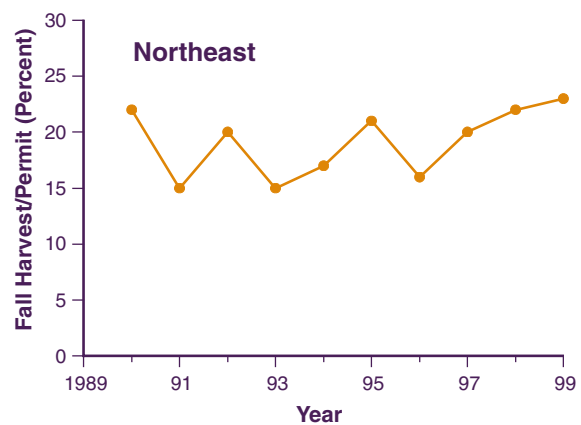
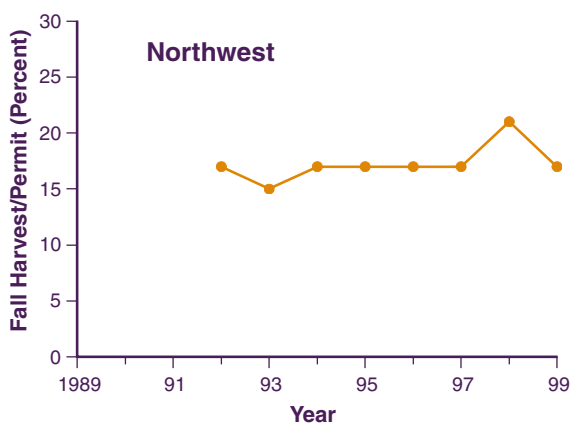
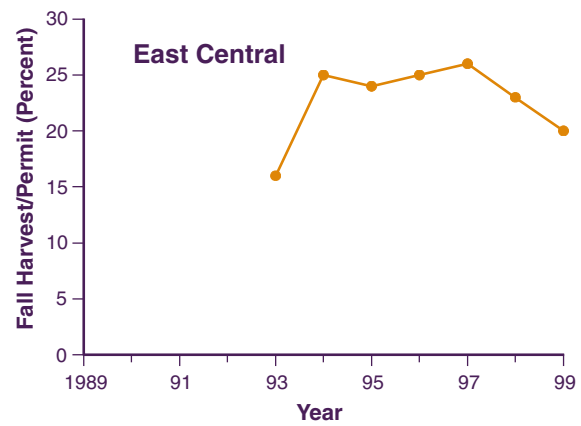
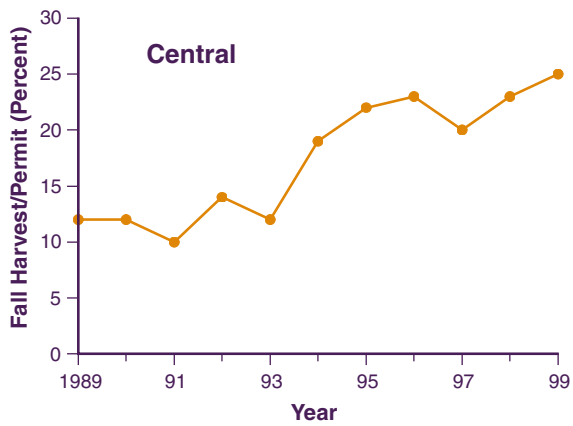
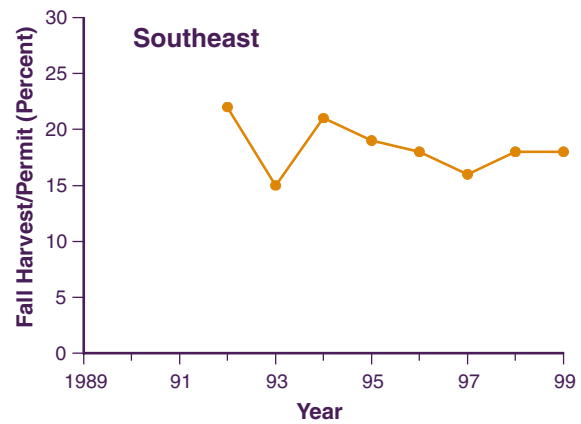
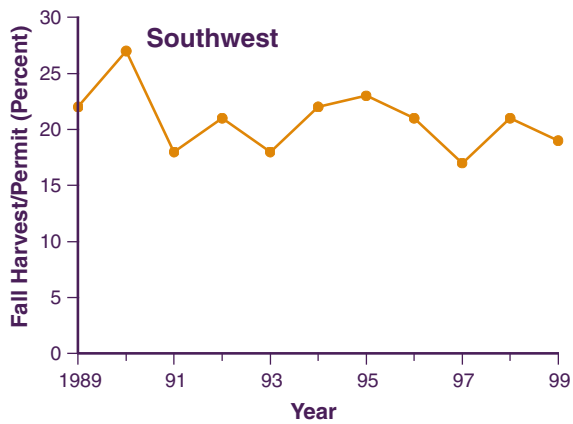


Figure 26. Harvest per permit during fall by wild turkey management regions, 1989-99. (Wild turkey management regions are depicted in Figure 4, page 6)





Sociological Studies of Turkey Hunters

Profile of Turkey Hunters in Southwestern Wisconsin

We surveyed turkey hunters in Vernon, Crawford, and Richland counties in 1989-91 regarding perceptions of hunt quality and impressions of crowding and satisfaction at specific hunter densities. The survey also gathered information on hunters' techniques and the economic impact of turkey hunting in Wisconsin. Approximately 2,200 spring and 1,600 fall turkey hunters responded to these surveys.

Most turkey hunters responding to the mail questionnaire (73%) worked in professional/technical, skilled labor, or manager/administrator jobs, and 83% had gross incomes of \$20,000 or more. Ninety-seven percent were male. Hunters traveled an average of 95 miles from home to hunt during spring and 84 miles in fall.

About half of the hunters used camouflage clothing, and 97% used a call in spring, compared to 63% who used a call in fall. Thirty-four percent of the hunters responding to the survey reported harvesting a turkey in spring, and 9% believed they hit a bird they were unable to retrieve. By comparison, 21% of the hunters reported harvesting a turkey in fall, but 16% hit a bird they were unable to retrieve.

Turkey hunters spent about \$280 in spring and \$180 in fall, averaged for all hunters surveyed between 1989-91. The spring figure included \$135 for fuel, food, and lodging; \$49 for clothing; \$32 for ammunition; and \$61 for miscellaneous items. The fall amount included \$101 for fuel, food, and lodging; \$45 for clothing; \$13 for ammunition; and \$21 for other items. An alternative estimate of about \$200 for spring turkey hunting came from a 1991 mail survey of 150 spring turkey hunters conducted with assistance from the University of Wisconsin. In that year hunters secured about 37,500 spring permits and 17,000 fall permits, generating about \$10 million to \$13 million for the year. In 1999, with about 105,000 turkey hunters in the field in spring and 55,000 in fall, estimated expenditures would total \$38 million to \$48 million adjusted for inflation.

Hunter Perceptions of Turkey Hunting Throughout Southern Wisconsin

In most years, mail surveys regarding perception of hunting quality have been sent to a randomly selected sample of all turkey hunters immediately following the spring and fall turkey hunting seasons. Approximately 5,000 spring and 4,000 fall turkey hunters return the surveys each year. Most hunters, during both the spring and fall hunts, indicated they had a good hunting experience with low levels of crowding or interference by other hunters. One-third to one-half of respondents to the spring season survey during 1992-94 rated the quality of their hunt as high or very high. Less than one in 10 hunters indicated that other hunters definitely interfered with their chance to shoot a turkey. However, between 9% and 28% of respondents in 1992-94 indicated that other hunters kept them from hunting where they wanted.

One-fourth to one-third of the fall turkey hunters reported a fairly high to very high quality hunt during 1991-94. Only



**Turkey hunters
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\$48 million
during spring and
fall hunts in 1999.**



DNR PHOTO

About one-half of wild turkey hunters use camouflage clothing and most use calls during spring hunts.



about one in 10 turkey hunters reported that the presence of other hunters interfered with their hunt. Those reporting interference attributed about 20% to 40% to archery deer hunters, 15% to 45% to other turkey hunters, and about 20% to 30% to small game hunters.

Effect of Hunter Density on Hunter Perceptions of Turkey Hunting

Wildlife managers in Wisconsin have kept hunter numbers at moderate levels to help ensure a safe, high quality hunt. Hunter density is controlled by limiting the number of hunting permits issued for each time period in the season. Because hunter interest in turkey hunting is increasing, research was conducted in 1989-91 to estimate the maximum hunter density acceptable to both hunters and landowners. THZ 1A in Vernon County was designated as the experimental area and THZs 2 and 3 in Crawford and Richland counties were control areas. Hunter density was doubled in the experimental area (to approximately 4 permits per square mile of woodland) compared to control areas. Questionnaires were mailed right after the spring and fall hunts asking hunters about perceptions of hunt quality and crowding, and asking landowners about tolerance of hunters.

During spring more hunters in THZ 1A (19%) reported a very high hunter density on their first hunting day than did those in THZs 2 and 3 (5%). The percentage of hunters who did not feel crowded on their first hunting day was higher in the control areas (80%) than in the experimental area (69%). In contrast, survey respondents did not differ on either the number of other hunters seen or the percentage who said other hunters hampered their chance to shoot a turkey. The percentage of hunters who felt their safety was at risk also did not differ between areas.

As expected, seeing, hearing or successfully bagging a turkey increased hunter satisfaction. A similar percentage of hunters on both areas heard or harvested a turkey during spring. More hunters saw turkeys on the control area than the experimental area, probably because turkey densities were actually higher. On average, estimated turkey density was 38% higher on the control than on the experimental area, based on helicopter surveys in 1989 and 1991.

Overall, hunter perception of hunt quality during spring was lower where hunter density was higher than in the adjacent control area. Seventeen percent on the higher density area rated hunt quality very high, compared to 25% on the control areas. However, we do not know whether these perceptions may have been affected by possible prior knowledge of the higher hunter density on the experimental area.

In contrast, during the fall hunting season, hunter perceptions were similar on both experimental and control areas regarding: overall hunt quality, hunting satisfaction on the first day they hunted, crowding, the number of other hunters seen while hunting, the percentage of hunters who heard turkeys, and the percentage who indicated other hunters interfered with their chance to shoot a turkey. Hunters did not feel the hunter



NEAL PAISLEY

Seeing, hearing or successfully bagging a wild turkey increases hunter satisfaction.



density was too high on either area. However, a higher percentage of hunters saw turkeys (51% versus 44%), and harvested a turkey (23% versus 19%) on the control area.

Different perceptions of hunter density from spring to fall may be due to seasonal differences in hunting methods and expectations. In spring most hunters call from a concealed or camouflaged position. They relish the one-on-one challenge of attracting a gobbler and frown on another hunter calling the same bird. In fall the turkey hunt coincides with small game and bow deer seasons so most hunters expect to encounter others in the field. Most attempt to stalk or ambush birds. However, fall turkey hunters remain as concerned as their spring counterparts about interference with their chance to harvest a bird.

Effect of Hunter Density on Landowner Perceptions of Turkey Hunting

About 95% of the approximately 900 landowners surveyed allowed turkey hunters on their property on both the experimental and control areas. However, a much higher percentage of landowners refused hunting permission at least once on the experimental area (32%) than on the control areas (17%). Just over one-fourth of the landowners on both areas were aware of hunter trespass. About half had a favorable impression of turkey hunters, possibly enhanced by turkey hunters giving landowners a gift in appreciation for permission to hunt (43% in spring and 32% in fall).

These results suggest that while hunter satisfaction decreased with increased hunter density, permit levels as high as 4 per square mile of woodland can be prescribed in spring without causing unacceptable levels of hunter interference or reducing landowners willingness to grant hunting access. However, wildlife managers should be cautious about extrapolating these results to other areas of the state. Turkey densities in southwestern Wisconsin were fairly high during this study and hunters may be more tolerant of crowding when turkeys are abundant. In addition, a hunter's perception of crowding may be affected by whether the square mile of woods is in a single connected block or is divided into many small, isolated woodlots. While hunters were more tolerant of crowding in fall, hunter densities must be carefully managed because fall harvests can reduce the future abundance of turkeys. Based in part on this research, the DNR's Wild Turkey Management Plan set as an objective to "maintain a high quality hunting experience by managing hunter numbers to keep reported interference rates below 30%."



The DNR's Wild Turkey Management Plan set as an objective to "maintain a high quality hunting experience by managing hunter numbers to keep reported interference rates below 30%."

Most private landowners allow wild turkey hunters access to their property.



JOHN KUBISIAK



Volunteer instructors lead about 40 wild turkey hunting clinics each year.



JAMES ROBADEK

Turkey Hunting Safety

Wisconsin has had a safe turkey hunting record with very few hunting accidents and fatalities during the season. Since turkey hunting was initiated, the number of accidents per 100,000 permits issued averaged 2.6 during spring and 5.0 during fall. In a 1990-92 survey of 46 states and Ontario Province, accidents averaged 8.3 in spring and 9.3 in fall per 100,000 turkey hunting permits issued. However, accident rates may not be directly comparable across jurisdictions because the number of permits per hunter differs.

Wisconsin's low level of hunting accidents is due, in part, to low hunter densities and to the emphasis on safety in turkey hunting regulations and in special turkey hunter clinics. In addition, hunter education courses are now mandatory for all hunters born on or after January 1, 1973. These courses teach general hunting techniques and stress hunter ethics, safety, and good hunter-landowner relations.

Safety is also a principal discussion topic at the free spring turkey hunter clinics which are sponsored by the DNR with financial support from the National Wild Turkey Federation. About 25 volunteer instructors, including some DNR personnel, lead about 40 clinics a year. Instructors review turkey biology and management, hunting methods, and regulations, emphasizing responsible hunter ethics, safety, and good hunter-landowner relations. These clinics have attracted more than 45,000 participants since they began in 1983. In 1999, about 30% of the hunters responding to a mail questionnaire had previously attended a turkey hunting clinic.

Law Enforcement

An important component of managing the hunt is enforcing the laws and regulations pertaining to wild turkey hunting. Research in other states indicated that illegal killing of hens was a major cause of mortality and was potentially limiting population growth. In contrast, illegal kill accounted for only 2% of the documented deaths of radio-marked hens on the Vernon County study area. However, the visible presence of biologists on the study area may have deterred illegal activity.

DNR Conservation Wardens issued a total of 623 citations for turkey hunting violations during 1995-99. This compares to nearly 640,000 spring and fall turkey hunting permits issued during these years. The majority of violations were for hunting without a valid permit, hunting over bait, or hunting by means other than shotgun or bow. While it appears that the vast majority of Wisconsin's turkey hunters abide by the regulations, all violations are serious because poaching leaves fewer turkeys for ethical hunters. The DNR maintains a violation hotline (1-800-TIP-WDNR), and the Wisconsin Chapter of the National Wild Turkey Federation offers rewards for information leading to the arrest and conviction of turkey poachers.

Suspected hunting violations can be reported to the DNR hotline 1-800-TIP-WDNR.

Wild Turkey Hunting Regulations Spring 2001



2001 Turkey Stamp design by Robert Leum

Dear Turkey Hunter,

Thank you for being part of one of Wisconsin's greatest wildlife success stories! The turkey population has established in most of Wisconsin thanks in large part to careful hunting regulation and conscientious hunters. Please help us to pass on this tradition to the next generation. Have a safe and successful spring hunt!

Keith Worman

Keith Worman
Turkey Program Coordinator

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